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ABSTRACT

This study compared the effects of traditional instruction and computer assisted instruction (CAI) on 152 students enrolled in a psychology class at a junior college in northwestern Mississippi. Specifically, the study compared the effects of the two types of instruction on students' academic achievement, motivation and enthusiasm for learning, and self-concept and attitude toward the course and the professor. Eighty-two of the subjects received CAI and 70 received traditional instruction. In order to determine the effect of the two instructional methods on academic achievement, teacher-assigned grades in psychology were compared upon completion of the course. The total ACT score was used to statistically control the general aptitude and ability of the students. The independent variables of age, race, and sex were also compared with both instructional methods to determine their effect on teacher-assigned grades in the course. Data were analyzed using analysis of covariance. No significant difference was observed between the gradepoint average earned by the CAI group and that earned by the traditional group. When race, age, and sex were treated as independent variables, age was found to be a significant factor. When student responses were tabulated regarding their attitudes toward the course and the professor, those taught with the computer had more positive attitudes than those taught through with traditional methods. (GL)

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The Academic Achievement of Junior College Students and Computer Assisted Instruction

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ABSTRACT

The purpose of this study was to compare the effects of traditional and computer assisted instruction on academic achievement in a Junior College psychology course. More specifically, when using ACT scores as the covariate, there will be no significant differences in the achievement of students taught through the use of computer assisted instruction and those taught through the use of traditional methods.

The benefits of using the computer as a teaching method in other settings and at other levels has been described in the literature. Few of the studies have related to this setting. Are those benefits also available in an academic classroom at a Junior College? A current and a historical role of the Junior College has been that of serving as the "open door" for higher education. This challenge has been met by the willingness of those institutions to continue searching for effective ways to improve teaching and learning strategies in the classroom as they continued their effort to deal with their commitment to a very broad range of abilities and interests exhibited by their students.

The subjects were 152 Junior College students. Data were collected through the use of the total ACT score and academic records. When the gradepoint average earned by the computer assisted group was compared to the gradepoint average earned by the traditional group, no significant difference

was observed. When race, age, and sex were treated as independent variables, age was found to be a significant factor at the .05 level. When student responses were tabulated regarding their attitudes toward the course and the professor, those taught through the use of the computer had more positive attitudes than those taught through the use of traditional methods.

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NATURE AND SCOPE OF THE STUDY

Introduction

Making provisions for the individual needs and interests of students in a typical classroom has long been a basic concern of educators. This concern led to the use of various methods and procedures in the classroom. Computer assisted instruction was a method used to more adequately meet the needs and interests of students in a Junior College classroom. When the educational needs of students are not met, they do not perform at a level consistent with their academic potential.

Computer assisted instruction (CAI) as a teaching/learning strategy in the classroom has provided benefits for the students. The advantages of this method have been described in the literature. However, not many of these studies dealt with Junior college students or the use of this method in a psychology classroom. Are the positive results associated with this technique in other instructional settings available in a Junior college class?

As the "open door" institutions, Junior colleges have occupied a unique position in higher education. This has been a long standing role for the Junior college and is one which will no doubt continue into the forseeable future. As the Junior colleges continue to fulfill their committment to the very broad range of abilities and interests exhibited by their student body and in their classrooms, so must their efforts

continue to improve teaching/learning strategies in the classroom.

This study was developed primarily to determine the benefits of CAI in a junior college psychology class. Is motivation and enthusiasm for learning increased for students in Junior college psychology classes who are involved in CAI? Do students who are involved in classrooms with CAI develop more positive self-concepts and attitudes toward the course and the professor? How do achievement levels in a psychology class compare for students involved with CAI and those using a traditional method?

Statement of the Problem

This study was designed to compare the effects of traditional and computer assisted instruction on academic achievement in a Junior college psychology course.

Hypothesis

When general aptitude and ability are controlled through using ACT scores as the covariate, there will be no significant difference in the achievement of general psychology students taught through the use of traditional methods and those taught through the use of computer assisted instruction.

METHODS AND PROCEDURES

Subjects of the Study

The setting for this study was a Junior college which was located in Northeast, Mississippi. The 152 students involved were enrolled in a psychology course. Eighty-two of the students were taught in a classroom through the use of CAI. Seventy of the students were taught through the use of traditional instructional methods.

Data Gathering Instruments

Data for this study were gathered through the use of one instrument and the academic records of students. Teacher Assigned Grades in Psychology, Age, Race, Sex, and the American College Testing scores were collected for all students involved.

Procedures

Students were enrolled in the computer assisted or traditional course in general psychology entirely by chance. In order to determine the effect of the two instructional methods on the academic achievement of the students, the Teacher Assigned Grades in Psychology were compared upon completion of the course. The total ACT score was used to statistically control the general aptitude and ability of the students.

The independent variables of age, race, and sex were also compared with the computer assisted and traditional instructional methods to determine their effect on Teacher Assigned Grades in the course.

Analysis of Data

The data were analysis through the use of an analysis of covariance model. The .05 level of significance was used to evaluate the relevant ratios.

ANALYSIS OF DATA

This investigation was designed to determine the effect of traditional and computer assisted instruction on academic achievement in a Junior college psychology course. The data were analyzed and interpreted in terms of this purpose.

Results of Analysis of Covariance

The null hypothesis stated that when general aptitude and ability are controlled through using ACT scores as a covariate, there will be no significant difference in the achievement of general psychology students taught through the use of traditional methods and those taught through the use of computer assisted instruction.

The achievement of the two groups expressed in gradepoint average earned (5 point scale) were compared through the use of an analysis of covariance model. The dependent variable was the gradepoint earned and the covariate was the total ACT score. Independent variables investigated beside teching method were race, age, and sex.

A significant difference was not found between means of the group taught by the use of computer assisted instruction and the group taught by traditional methods. Therefore, it was concluded that there was no significant difference between the achievement levels of the two groups.

Race, age and sex were also compared to determine their effect on achievement in the course. Of the selected variables the relationship between age and achievement was found to be significantly at the .05 level.

SUMMARY AND CONCLUSIONS

Summary

The purpose of this study was to determine the effect of traditional and computer assisted teaching methods on academic achievement in a Junior College psychology course. The achievement of the two groups expressed in gradepoint average earned (5 point scale) were compared through the use of an analysis of covariance model.

The dependent variable was the gradepoint earned and the covariate used was the total ACT score. Independent variables investigated beside teaching method were race, age and sex. The group taught by the use of computer assisted instruction had a mean which was not significantly higher than the group taught by traditional method. Therefore, it was concluded that the computer assisted group had not achieved at a significantly higher level that the traditional group.

In addition, race, age, and sex were compared in order to determine the effect of these variables on achievement. Of the three, age was found to be significant at the .05 level.

Conclusions

This study did not appear to support the hypothesis that the use of the computer in a junior college classroom had positive effects on the academic achievement of students when compared to a classroom where traditional methods were used. Other research studies supported the use of the computer in the academic instructional program as a worthwhile addition to the teaching methods used at the junior college level. Related studies indicated that the computer showed promise as a means of dealing with the junior college committment to a broad

range of abilities, ages, and interests exhibited by their students.

It was also interesting to note an additional benefit associated with computer usage in the classroom found in a related study. When students responses were tabulated regarding their attitudes toward the course and the psychology professor, those taught through the use of the computer were more positive than those taught through the use of traditional methods.